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M8011 [1999-N]

Nissan Engineering Standard

NES	Acrylonitrile-Butadiene-Styrene ABS, AAS, AES, Resin (contained Polymer Alloy Resin with Another Resin)	M 8011 Revised 1999
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1. SCOPE

This Standard specifies Acrylonitrile-Butadiene-Styrene material used in automobiles, and specifies its classification.

Definition of terms:

ABS: Acrylonitrile-butadiene-styrene resin

AAS: Acrylonitrile-acrylate-styrene resin

AES: Acrylonitrile-ethylene-propylene-styrene resin

Polymer blends (ABS+PC, etc.) among the above resins and PC resins are also included.

Remark: The units and numerical values given in { } in this Standard are based on the conventional unit system and are appended for informative reference.

2. CLASSIFICATION

ABS resin shall be classified according to load deflection temperature, Izod impact strength, and its grade ⁽¹⁾ using the below classification symbols. The examples of classification are shown in Table 1. Table 1 specifies 18 ABS resins (ABS+PC included) and eight AAS or AES resins (AES+PC included). Resins which are not listed in Example of classification, Table 1 can be classified using the symbols below.

Note ⁽¹⁾ It shows grades for decoration of ABS resins which are designated according to the symbols below.

Material classification symbols

In principle, the symbols shall be followed according to NES M 8010 "Symbols of Resin Materials". However, when necessary, unlisted symbols in M 8010 are used. Therefore this Standard precedes NES M 8010.

ABS-IC2-LG-2

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Applicable and Reference Standards: See Page 5.

Table 1 List of drawing notation symbol and quality

Application	Drawing notation symbol	Material classification symbol	Specified value of physical properties and specified quality						Group of parts applicable for drawing notation symbol																			
			Common interior and exterior				Exterior parts		Common interior and exterior items to be checked other than the ones at left.	Exterior parts							Interior parts											
			Test item	Load deflection temperature	Izod impact test value	MFR	Bending elastic modulus	Light resistance		Weather resistance	Lamps	Radiator grille	Cowl top grill	Air outlet	Door corner cover	Finisher	Mirrors	Interior lamps	Steering	Ventilators	Inst. panel peripherals	Body-side trim	Rear parcel	Door finisher	Trunk	Inside mirror	Sunvisor	Console peripherals
			Standard	Unit	°C	KJ/m ² (kgf·cm/cm ²) (23°C)	g/10 min (230°C, 98 N) (10 kg)	MPa (kgf/cm ²) (23°C)	(Judgment with load and appearance)		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B		Type 1, Grade B	
Weather resistance (light)	W-ABS-A2-01	ABS-A2-2			77±	850BS	25±	2000S (20000S)	-		-		Equivalent to type 1A, Grade A		-		-		-		-		-		-		-	
	W-ABS-B2-01	ABS-B2-2			84±	850BS	9S		-		Type 1, Grade B		-		-		-		-		-		-		-		-	
	W-ABS-B3-01	ABS-B3-2				15S(15S)			-		-		-		-		-		-		-		-		-		-	
	W-ABS-B3-01	ABS-B3-2			90±	40S(41S)	20S		-		-		-		-		-		-		-		-		-		-	
	W-ABS-B3-01	ABS-B3-2			80±	850BS	4S		-		-		-		-		-		-		-		-		-		-	
Matting	LG-ABS-B2-01	ABS-B2-LG-2			80±	850BS	4S		-		-		-		-		-		-		-		-		-		-	
	LG-ABS-A1-01	ABS-A1-LG-2			96±	5S(5S)	4S		-		-		-		-		-		-		-		-		-		-	
	LG-ABS-A2-01	ABS-A2-LG-2			90±	850BS	2S		-		-		-		-		-		-		-		-		-		-	
	LG-ABS-A2-02	ABS-A2-LG-2			96±	850BS	3S		-		-		-		-		-		-		-		-		-		-	
Sliding area	LB-ABS-B3-01	ABS-B3-2			80±	15S(15S)	6S		-		-		-		-		-		-		-		-		-		-	
Skin molding	SK-ABS-B3-01	ABS-B3-2			84±	21S(21S)	9S		-		-		-		-		-		-		-		-		-		-	
Painting or specification with skin	P-ABS-A3-01	ABS-A3-2			77±	21S(21S)	25±	2000S (20000S)	-		-		-		-		-		-		-		-		-		-	
	P-ABS-A4-01	ABS-A4-2				25S(25S)			-		-		-		-		-		-		-		-		-		-	
	P-ABS-A4-02	ABS-A4-2				25S(25S)			-		-		-		-		-		-		-		-		-		-	
	P-ABS-B2-01	ABS-B2-2			84±	850BS	9S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-B3-01	ABS-B3-2			84±	15S(15S)	6S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-B3-02	ABS-B3-2			88±	18S(18S)	6S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-A1-01	ABS-A1-2			96±	850BS	4S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-A1-02	ABS-A1-2			96±	850BS	4S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-A1-03	ABS-A1-2			90±	40S(41S)	4S		-		-		-		-		-		-		-		-		-		-	
	P-ABS-A1-04	ABS-A1-2			90±	40S(41S)	4S		-		-		-		-		-		-		-		-		-		-	
Common use of both painting and plating	PM-ABS-A2-01	ABS-A2-2			80	40S(41S)	6S	1500S	-		-		-		-		-		-		-		-		-		-	
	PM-ABS-A2-01	ABS-A2-2			100±	850BS	4S	2000S (20000S)	-		-		-		-		-		-		-		-		-		-	
	PM-ABS-B3-01	ABS-B3-PM-2			77±	25S(25S)	25±		-		-		-		-		-		-		-		-		-		-	
	PM-ABS-B3-01	ABS-B3-PM-2			64±	21S(21S)	9S		-		-		-		-		-		-		-		-		-		-	
Affixing of vinyl chloride skin	PVC-ABS-A2-01	ABS-A2-2			83±	12S(12S)	2S		-		-		-		-		-		-		-		-		-		-	
	PVC-ABS-A2-02	ABS-A2-2			83±	12S(12S)	5S		-		-		-		-		-		-		-		-		-		-	
Sputtering	SP-ABS-A4-01	ABS-A4-SP-2			77±	25S(25S)	25±		-		-		-		-		-		-		-		-		-		-	
	SP-ABS-B3-01	ABS-B3-SP-2			84±	21S(21S)	9S		-		-		-		-		-		-		-		-		-		-	